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News

Drinking Water
EPA Risk Assessment of Perchlorate Prompts California to Lower Advisory

California health officials Jan. 18 lowered the advisory standard for perchlorate in drinking water from 18 parts per billion to 4 ppb in response to a draft toxicity assessment released by the Environmental Protection Agency.

Although federal officials maintain the draft findings are preliminary and "subject to review both within EPA and by the external scientific community," California's Department of Health Services believes the data justify an immediate lowering of the nonenforceable standard.

Department of Health Services spokesperson Lea Brooks told BNA that the EPA draft assessment also will be the basis for setting a California public health goal for perchlorate this spring, followed by an enforceable standard by 2004.

The EPA draft, released Jan. 18 by the agency's National Center for Environmental Assessment, cites new health data that may lead to a lower reference dose for perchlorate than previously expected. A reference dose is an exposure level the agency believes an individual could experience every day for a lifetime without expectation of harm.

In the draft, EPA sets a draft reference dose of .00003 milligrams per kilogram per day (mg/kg/day), which converts to a drinking water equivalent level--assuming factors of 70 kilogram body weight and 2 liters of water consumption per day--of 1 microgram per liter (ug/L) or 1 part per billion (ppb).

In 1995, EPA estimated a reference dose for perchlorate of between .0001 to .0005 mg/kg/day, which translated into a drinking water equivalent of between 4 and 18 ppb.

EPA to Host Review Session

However, EPA cautioned that the updated findings are preliminary. Perchlorate was placed on EPA's Contaminant Candidate List in 1998 and required monitoring began in 1999 under the Unregulated Contaminant Monitoring Rule.

"The draft risk estimate is not a drinking water standard, but is the first step in a lengthy process to determine if the agency should set a federal drinking water standard for this contaminant," the agency said. "If the agency were to make a determination to regulate perchlorate, the RfD [reference dose] along with other considerations would factor into the final value."

According to EPA, perchlorate interferes with human thyroid function, particularly among children. It may cause developmental and learning disabilities, as well as cancer among children and adults.

EPA spokesman Dave Deegan said the agency would be "more than a couple years away' from issuing a standard if a determination to regulate perchlorate is made.

The agency is accepting public comments on the draft until March 6 and will host a peer review workshop, open to the public, on March 5-6 in Sacramento, Calif. (67 Fed. Reg. 1759). EPA expects to issue a final version of the assessment by late September 2002.

At Least 20 States Impacted

Perchlorate is both a naturally occurring and man-made chemical. It is most commonly used to make rocket and missile fuels, as well as munitions, paints, finished leather, rubber products, and some fertilizers.

Confirmed releases from the manufacture or improper disposal of perchlorate have been found in at least 20 states. It originates as a contaminant in groundwater and surface water from the dissolution of ammonium, potassium, magnesium, or sodium salts and is highly soluble.

One of the more high profile contamination cases involves the cleanup of an 8,500-acre facility in Southern California owned by defense contractor Aerojet Corp. In July, EPA's superfund program announced "the most aggressive cleanup standard ever set for perchlorate" at 4 parts per billion (148 DEN A-2 8/2/01).

The draft assessment, titled Perchlorate Environmental Contamination: Toxicological Review and Risk Characterization, is available at http://www.epa.gov/safewater/ccl/perchlor/perchlo.html on the World Wide Web.

By Mike Ferullo

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